Release Notes for Cisco Catalyst IR1101, IR1800, IR8140, IR8340, and Cisco ESR 6300 Routers - (Cisco IOS XE Cupertino 17.7.1)

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Introduction to this Document

This Release Notes document provides information about the Cisco Catalyst IR1101 Rugged Series Routers, Cisco Catalyst IR1800 Rugged Series Routers, Cisco Catalyst IR8140 Heavy Duty Series Routers, Cisco Catalyst IR8340 Rugged Series Routers, and Cisco ESR6300 Embedded Series Routers running Cisco IOS XE 17.7.1.

This document describes the new features, limitations, troubleshooting, besides providing recommended configurations, caveats, and information on how to obtain support and documentation.

Note The documentation set for this product strives to use bias-free language. For purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. Exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on RFP documentation, or language that is used by a referenced third-party product.

Cisco Catalyst IR1101 Rugged Series Router



The Cisco Catalyst IR1101 Rugged Series Router is a next-generation modular industrial router, which has a base platform with additional pluggable modules that can be added. The pluggable modules provide the flexibility of adding different interfaces to the IR1101 platform, for example, a cellular module, which provides Fourth-Generation Long-Term Evolution (4G LTE) cellular networks and Third-Generation (3G) cellular networks.

The IR1101 also has an expansion module that adds key capabilities to the IR1101, such as mSATA SSD FRU, Ethernet SFP port, and digital GPIO connections. The expansion module also makes the IR1101 dual LTE capable, with one LTE module in the base and the other LTE module in the expansion module.

Note The IR-1100-SP expansion module is the same as the IR-1100-SPMI module, without the digital I/O and mSATA components.

Cisco Catalyst IR1800 Rugged Series Router



The Cisco Catalyst IR1800 Rugged Series Router is a modular industrial router. The IR1800 series has four base platforms with additional pluggable modules that can be added. The pluggable modules provide the flexibility of adding different interfaces to the base platform.

The IR1800 series features a base platform with modularity, that includes:

- Pluggable Interface Module (PIM)
- mSATA Module (SSDM)
- GPS Module
- Wi-Fi Module

The IR1800 series consists of four base platforms:

- IR1821
- IR1831
- IR1833
- IR1835

Table 1: Differences Between the IR1800 Series Routers' Features

Feature	IR1821	IR1831	IR1833	IR1835
Processor Frequency	600 MHz	600 MHz	600 MHz	1200 MHz
DDR Memory	4 GB	4 GB	4 GB	8 GB
Flash Storage	4 GB	4 GB	4 GB	8 GB
PIM Slot	1	2	2	2
Wi-Fi Pluggable Module Slot	1	1	1	1
PoE	No	No	Yes	Yes
SSD Module Slot	No	No	Yes	Yes
GPS FRU Module Slot	No	No	Yes	Yes

Feature	IR1821	IR1831	IR1833	IR1835
Digital I/O	No	No	No	Yes
Asynchronous Serial Interface	(1) RS232 DTE	(1) RS232 DTE (1) RS232 DCE	(1) RS232 DTE (1) RS232 DCE	(1) RS232 DTE (1) RS232 DCE/RS485

Cisco Catalyst IR8140 Heavy Duty Series Router



The Cisco Catalyst IR8140 Heavy Duty Series Router (IR8140H), is a next-generation modular IP 66/67 Industrial Router for outdoor use.

These are the two IR8140H models:

- IR8140H-P-K9 (with PoE PSE)
- IR8140H-K9 (without PoE PSE)

The IR8140H series features contains four external module slots plus two onboard WAN ports, and supports the following:

- 60-W PSU
- CPU 1.2 GHz
- 8GB RAM
- 8GB Flash Storage
- GPS onboard receiver
- 900-MHz WPAN – OFDM/FSK
- 4G LTE IRMH modules
- mSATA module
- 1x 1-Gigabit Ethernet SFP WAN
- 1x 1-Gigabit Ethernet Cu WAN
- PoE (15 W) supported only in the IR8140H-P-K9 PID
- 12VDC_OUT port (only available when PoE is not in use)

- Battery Backup Units (BBUs): Up to three
- 2x Alarm ports (Digital I/O)

Cisco Catalyst IR8340 Rugged Series Router



The Cisco Catalyst IR8340 Rugged Series Router, is the first all-in-one industrial-grade, integrated routing, switching, and security platform.

The IR8340 router features two Pluggable Interface Module (PIM) slots, two single-wide IRM-NIM slots, plus 12 onboard LAN ports, and two WAN ports, and supports the following:

- 150W or 250W PSU, low-voltage DC and high-voltage AC/DC options
- PTP on LAN ports - Default, power and Dot1as profiles
- LTE PIM
- Network Interface Modules (NIMs)
- mSATA module
- 2 x 1-G Combo WAN ports
- 4 x 1-G Copper LAN ports
- 4 x 1-G Combo LAN ports
- 4 x 1-G SFP LAN ports
- PoE, Poe+ Support of LAN ports 1-4 and UPoE Support on Lan ports 1 and 2
- 2 x IN and 1 x OUT Alarm ports (RJ45)

Cisco ESR6300 Embedded Series Router



The ESR6300 is a small form factor embedded router module with a board size of 3.0 in. x 3.775 in. (76.2 mm x 95.885 mm).

The more compact design simplifies integration, and offers system integrators the ability to use the Cisco ESR6300 in a wide variety of embedded applications. The ESR module is available with a Cisco-designed cooling plate customized to the ESR, as well as without the cooling plate for system integrators who want to design their own custom thermal solution.

There are two ESR6300 SKUs:

- ESR-6300-NCP-K9: Embedded Router Board without a cooling plate (NCP = No Cooling Plate)
- ESR-6300-CON-K9: Embedded Router Board without a cooling plate (NCP = No Cooling Plate)

Both of the SKUs offer the following port and module interfaces:

- Four GE LAN ports
- Two combo GE WAN ports
- One USB 3.0 port
- One mSATA module interface

Interface Naming Conventions

Cisco Catalyst IR1101 Rugged Series Router

Port	Naming Convention
Gigabit Ethernet combo port	GigabitEthernet0/0/0
Gigabit Ethernet SFP port on Expansion Module	GigabitEthernet0/0/5
Fast Ethernet ports	FastEthernet0/0/1-0/0/4
Cellular Interface on IR1101 Base	Cellular 0/1/0 and Cellular 0/1/1
Cellular Interface on Expansion Module	Cellular 0/3/0 and Cellular 0/3/1
Asynchronous Serial Interface	Async0/2/0
USB	usbflash0:
mSATA	msata
IR1101 Base Unit Alarm input	alarm contact 0
GPIO on Expansion Module	alarm contact 1-4

Cisco Catalyst IR1800 Rugged Series Router

Port	Naming Convention
Gigabit Ethernet combo port	GigabitEthernet0/0/0
Gigabit Ethernet ports	GigabitEthernet0/1/0-0/1/3
Cellular Interface	Cellular 0/4/0 Cellular 0/4/1 Cellular 0/5/0 Cellular 0/5/1

Port	Naming Convention
Asynchronous Serial Interface	Async0/2/0 Async0/2/1 (when the base platform supports two asynchronous serial interfaces)
USB	usbflash0:
mSATA	msata
GPIO	alarm contact 1-4

Cisco Catalyst IR8140 Heavy Duty Series Router

Port	Naming Convention
Gigabit Ethernet ports	GigabitEthernet0/0/0 GigabitEthernet0/0/1
Cellular Interface	Cellular 0/2/0 Cellular 0/3/0
SSD	Virtual port Group0
WPAN	Wpan 0/1/0
Digital IO	alarm contact 1-2

Cisco Catalyst IR8340 Rugged Series Router

Port	Naming Convention
Gigabit Ethernet WAN ports	GigabitEthernet0/0/0 GigabitEthernet0/0/1
Gigabit Ethernet LAN ports	GigabitEthernet0/1/0-0/1/11
Cellular Interface	Cellular 0/4/0 Cellular 0/4/1 Cellular 0/5/0 Cellular 0/5/1
NIM Interface (Asynchronous/Synchronous Serial Ports or E1/T1 ports)	0/2/0 0/2/1 0/3/0 0/3/1
mSATA SSD	msata

Port	Naming Convention
GPIO	alarm contact 1-2
USB Port	usb0:
Console Port	Line console 0

Cisco ESR6300 Embedded Series Router

Port	Naming Convention
Gigabit Ethernet combo port WAN Layer3	GigabitEthernet0/0/0 GigabitEthernet0/0/1
Gigabit Ethernet LAN Layer 2 ports	GigabitEthernet0/1/0 GigabitEthernet0/1/1 GigabitEthernet0/1/2 GigabitEthernet0/1/3
USB Port	usbflash0: (IOS and rommon)
Console Port	Line console 0

Software Images for Cisco IOS XE Release 17.7.1

Note You must have a Cisco.com account to download the software.

Cisco IOS XE Release 17.7.1 includes the following Cisco images.

Table 2: Software Images for Cisco IOS-XE, Release 17.7.1

Router	Image Type	Filename
IR1101	Universal	ir1101-universalk9.17.07.01.SPA.bin
	NPE	ir1101-universal9_npe.17.07.01.SPA.bin
IR1800	Universal	IR1800-universalk9.17.07.01.SPA.bin
	NPE	IR1800-universal9_npe.17.07.01.SPA.bin
IR8140	Universal	IR8100-universalk9.17.07.01a.SPA.bin
	NPE	IR8100-universal9_npe.17.07.01a.SPA.bin

Router	Image Type	Filename
IR8340	Universal	ir8340-universalk9.17.07.01.SPA.bin
	NPE	ir8340-universalk9_npe.17.07.01.SPA.bin
ESR6300	Universal	c6300-universalk9.17.07.01.SPA.bin

The latest software downloads for the routers can be found at:

https://software.cisco.com/download/home/286323433

Click the link corresponding to your device to take you to the specific software you are looking for.

New Features in Cisco IOS XE 17.7.1

The following sections describe the major enhancements available in Cisco IOS XE 17.7.1 on each of the routers.

Major Enhancements in IR1101

Support for ADSL MIB Objects

The following ADSL MIB OIDs will be supported in IR1101:

```
1.3.6.1.2.1.10.94.1.1.6.1.15 ADSL-LINE-MIB adslAtucPerfCurr15MinInits
1.3.6.1.2.1.10.94.1.1.6.1.22 ADSL-LINE-MIB adslAtucPerfCurr1DayInits
```

Support for VDSL MIB Objects

The following VDSL MIB OIDs will be supported in IR1101:

```
1.3.6.1.2.1.10.251.1.4.1.2.1.3    VDSL2-LINE-MIB   xdsl2PMLInitCurr15MTimeElapsed
1.3.6.1.2.1.10.251.1.4.1.2.1.4    VDSL2-LINE-MIB   xdsl2PMLInitCurr15MFullInits
1.3.6.1.2.1.10.251.1.4.1.2.1.5    VDSL2-LINE-MIB   xdsl2PMLInitCurr15MFailedFullInits
1.3.6.1.2.1.10.251.1.4.1.2.1.6    VDSL2-LINE-MIB   xdsl2PMLInitCurr15MShortInits
1.3.6.1.2.1.10.251.1.4.1.2.1.7    VDSL2-LINE-MIB   xdsl2PMLInitCurr15MFailedShortInits
1.3.6.1.2.1.10.251.1.4.1.2.1.10   VDSL2-LINE-MIB   xdsl2PMLInitCurr1DayTimeElapsed
1.3.6.1.2.1.10.251.1.4.1.2.1.11   VDSL2-LINE-MIB   xdsl2PMLInitCurr1DayFullInits
1.3.6.1.2.1.10.251.1.4.1.2.1.12   VDSL2-LINE-MIB   xdsl2PMLInitCurr1DayFailedFullInits
1.3.6.1.2.1.10.251.1.4.1.2.1.13   VDSL2-LINE-MIB   xdsl2PMLInitCurr1DayShortInits
1.3.6.1.2.1.10.251.1.4.1.2.1.14   VDSL2-LINE-MIB   xdsl2PMLInitCurr1DayFailedShortInits
1.3.6.1.2.1.10.251.1.4.1.1.1.2    VDSL2-LINE-MIB   xdsl2PMLCurr15MValidIntervals
1.3.6.1.2.1.10.251.1.4.1.1.1.3    VDSL2-LINE-MIB   xdsl2PMLCurr15MInvalidIntervals
1.3.6.1.2.1.10.251.1.4.1.1.1.4    VDSL2-LINE-MIB   xdsl2PMLCurr15MTimeElapsed
1.3.6.1.2.1.10.251.1.4.1.1.1.5    VDSL2-LINE-MIB   xdsl2PMLCurr15MFecs
1.3.6.1.2.1.10.251.1.4.1.1.1.6    VDSL2-LINE-MIB   xdsl2PMLCurr15MEs
1.3.6.1.2.1.10.251.1.4.1.1.1.7    VDSL2-LINE-MIB   xdsl2PMLCurr15MSes
1.3.6.1.2.1.10.251.1.4.1.1.1.8    VDSL2-LINE-MIB   xdsl2PMLCurr15MLoss
1.3.6.1.2.1.10.251.1.4.1.1.1.9    VDSL2-LINE-MIB   xdsl2PMLCurr15MUas
1.3.6.1.2.1.10.251.1.4.1.1.1.10   VDSL2-LINE-MIB   xdsl2PMLCurr1DayValidIntervals
1.3.6.1.2.1.10.251.1.4.1.1.1.11   VDSL2-LINE-MIB   xdsl2PMLCurr1DayInvalidIntervals
1.3.6.1.2.1.10.251.1.4.1.1.1.12   VDSL2-LINE-MIB   xdsl2PMLCurr1DayTimeElapsed
1.3.6.1.2.1.10.251.1.4.1.1.1.13   VDSL2-LINE-MIB   xdsl2PMLCurr1DayFecs
1.3.6.1.2.1.10.251.1.4.1.1.1.14   VDSL2-LINE-MIB   xdsl2PMLCurr1DayEs
1.3.6.1.2.1.10.251.1.4.1.1.1.15   VDSL2-LINE-MIB   xdsl2PMLCurr1DaySes
```

```
1.3.6.1.2.1.10.251.1.4.1.1.1.16   VDSL2-LINE-MIB   xdsl2PMLCurr1DayLoss
1.3.6.1.2.1.10.251.1.4.1.1.1.17   VDSL2-LINE-MIB   xdsl2PMLCurr1DayUas
1.3.6.1.2.1.10.251.1.4.1.3.1.3    VDSL2-LINE-MIB   xdsl2PMLHist15MMonitoredTime
1.3.6.1.2.1.10.251.1.4.1.3.1.4    VDSL2-LINE-MIB   xdsl2PMLHist15MFecs
1.3.6.1.2.1.10.251.1.4.1.3.1.5    VDSL2-LINE-MIB   xdsl2PMLHist15MEs
1.3.6.1.2.1.10.251.1.4.1.3.1.6    VDSL2-LINE-MIB   xdsl2PMLHist15MSes
1.3.6.1.2.1.10.251.1.4.1.3.1.7    VDSL2-LINE-MIB   xdsl2PMLHist15MLoss
1.3.6.1.2.1.10.251.1.4.1.3.1.8    VDSL2-LINE-MIB   xdsl2PMLHist15MUas
1.3.6.1.2.1.10.251.1.4.1.3.1.9    VDSL2-LINE-MIB   xdsl2PMLHist15MValidInterval
1.3.6.1.2.1.10.251.1.4.1.4.1.3    VDSL2-LINE-MIB   xdsl2PMLHist1DMonitoredTime
1.3.6.1.2.1.10.251.1.4.1.4.1.4    VDSL2-LINE-MIB   xdsl2PMLHist1DFecs
1.3.6.1.2.1.10.251.1.4.1.4.1.5    VDSL2-LINE-MIB   xdsl2PMLHist1DEs
1.3.6.1.2.1.10.251.1.4.1.4.1.6    VDSL2-LINE-MIB   xdsl2PMLHist1DSes
1.3.6.1.2.1.10.251.1.4.1.4.1.7    VDSL2-LINE-MIB   xdsl2PMLHist1DLoss
1.3.6.1.2.1.10.251.1.4.1.4.1.8    VDSL2-LINE-MIB   xdsl2PMLHist1DUas
1.3.6.1.2.1.10.251.1.4.1.4.1.9    VDSL2-LINE-MIB   xdsl2PMLHist1DValidInterval
1.3.6.1.2.1.10.251.1.4.2.1.1.2    VDSL2-LINE-MIB   xdsl2PMChCurr15MValidIntervals
1.3.6.1.2.1.10.251.1.4.2.1.1.3    VDSL2-LINE-MIB   xdsl2PMChCurr15MInvalidIntervals
1.3.6.1.2.1.10.251.1.4.2.1.1.4    VDSL2-LINE-MIB   xdsl2PMChCurr15MTimeElapsed
1.3.6.1.2.1.10.251.1.4.2.1.1.5    VDSL2-LINE-MIB   xdsl2PMChCurr15MCodingViolations
1.3.6.1.2.1.10.251.1.4.2.1.1.6    VDSL2-LINE-MIB   xdsl2PMChCurr15MCorrectedBlocks
1.3.6.1.2.1.10.251.1.4.2.1.1.7    VDSL2-LINE-MIB   xdsl2PMChCurr1DayValidIntervals
1.3.6.1.2.1.10.251.1.4.2.1.1.8    VDSL2-LINE-MIB   xdsl2PMChCurr1DayInvalidIntervals
1.3.6.1.2.1.10.251.1.4.2.1.1.9    VDSL2-LINE-MIB   xdsl2PMChCurr1DayTimeElapsed
1.3.6.1.2.1.10.251.1.4.2.1.1.10   VDSL2-LINE-MIB   xdsl2PMChCurr1DayCodingViolations
1.3.6.1.2.1.10.251.1.4.2.1.1.11   VDSL2-LINE-MIB   xdsl2PMChCurr1DayCorrectedBlocks
1.3.6.1.2.1.10.251.1.4.2.2.1.3    VDSL2-LINE-MIB   xdsl2PMChHist15MMonitoredTime
1.3.6.1.2.1.10.251.1.4.2.2.1.4    VDSL2-LINE-MIB   xdsl2PMChHist15MCodingViolations
1.3.6.1.2.1.10.251.1.4.2.2.1.5    VDSL2-LINE-MIB   xdsl2PMChHist15MCorrectedBlocks
1.3.6.1.2.1.10.251.1.4.2.2.1.6    VDSL2-LINE-MIB   xdsl2PMChHist15MValidInterval
1.3.6.1.2.1.10.251.1.4.2.3.1.3    VDSL2-LINE-MIB   xdsl2PMChHist1DMonitoredTime
1.3.6.1.2.1.10.251.1.4.2.3.1.4    VDSL2-LINE-MIB   xdsl2PMChHist1DCodingViolations
1.3.6.1.2.1.10.251.1.4.2.3.1.5    VDSL2-LINE-MIB   xdsl2PMChHist1DCorrectedBlocks
1.3.6.1.2.1.10.251.1.4.2.3.1.6    VDSL2-LINE-MIB   xdsl2PMChHist1DValidInterval
```

Support for Additional 1-G SFPs

The following 1-G SFPs are supported in release 17.7.1:

- GLC-T-RGD
- CWDM-SFP-1470=
- CWDM-SFP-1610=
- CWDM-SFP-1530=
- DWDM-SFP-3033=
- DWDM-SFP-3112=
- GLC-BX-D-I=
- GLC-BX-U-I=
- GLC-TE

5G Sub-6 GHz Support on IoT Routing

The 5G Sub-6 GHz Pluggable Interface Module offers 5G capability to the IoT Industrial Router family. The product ID for the pluggable module is P-5GS6-GL. The P-5GS6-GL uses the FN980 Telit modem.

Note IOS XE release 17.7.1 is the first software release to provide support for the P-5GS6-GL.

- IoT routing platforms support a maximum of two pluggable modules, with a combination of 5G and 4G PIMs.
- The pluggable module can be started or stopped through the CLI under exec mode. Also, it can be configured to power off the module to reduce power consumption as needed.
- The capability to disable FDD Band 30 for vehicular applications is available.
- When plugged into the base, the module is accessible via Cellular 0/1/0, 0/1/1.
- The module is not supported on the expansion module.

More details are found in the 5G Sub-6 GHz Pluggable Interface Module chapter.

Major Enhancements in IR1800

Support for Additional 1-G SFPs

The following 1-G SFPs are supported in release 17.7.1:

- GLC-T-RGD
- CWDM-SFP-1470=
- CWDM-SFP-1610=
- CWDM-SFP-1530=
- DWDM-SFP-3033=
- DWDM-SFP-3112=
- GLC-BX-D-I=
- GLC-BX-U-I=
- GLC-TE

5G Sub-6 GHz Support on IoT Routing

The 5G Sub-6 GHz Pluggable Interface Module offers 5G capability to the IoT Industrial Router family. The product ID for the pluggable module is P-5GS6-GL. The P-5GS6-GL uses the FN980 Telit modem.

Note IOS XE release 17.7.1 is the first software release to provide support for the P-5GS6-GL.

- IoT routing platforms support a maximum of two pluggable modules, with a combination of 5G and 4G PIMs.
- The pluggable module can be started or stopped through the CLI under exec mode. Also, it can be configured to power off the module to reduce power consumption as needed.

- The capability to disable FDD Band 30 for vehicular applications is available.
- The cellular modems are accessible via Cellular 0/4/0, 0/4/1, 0/5/0, and 0/5/1.

More details are found in the 5G Sub-6 GHz Pluggable Interface Module chapter.

Major Enhancements in IR8140

Support for Online Insertion and Removal of the BBU Module

IR8140H supports up to three Battery Backup Units (BBUs) to allow the system to continue running during power outages. From Release 17.7.1, BBUs can be added or removed while the system is running, and get initialized properly. Syslog messages and SNMP traps are generated when a new BBU is inserted or a BBU is removed.

Support for Deployment of Dual WPAN Modules, with Proper Selection of Antennas and Cables

IR8140H has three Universal Interface Module (UIM) slots. In releases earlier than Release 17.7.1, only a single WPAN module was supported, and it had to be installed in slot 1. Slot 2 and slot 3 could support only LTE modules. In Release 17.7.1, IR8140H can have two WPAN modules installed at the same time. One WPAN module should be installed in slot 1, and the other in slot 2 or slot 3.

A WPAN module is associated with a corresponding WPAN interface. When two WPAN modules are installed, two WPAN interfaces are independent, and high availability (HA) is not supported between the two modules. Two interfaces should be configured with different PAN IDs and different IPv6 prefixes, while they can be configured with either the same SSID or different SSIDs.

For increased antenna isolation and better WPAN and LTE performance, follow the instructions in the Cisco Catalyst IR8140 Heavy Duty Router Installation Guide for guidance on WPAN and LTE module installation and antenna selection.

Major Enhancements in IR8340

No enhancements have been listed.

Note Cisco IOS XE 17.7.1 is the initial release for the IR8340.

Major Enhancements in ESR6300

LTE Modem Support

Cisco IOS-XE Release 17.7.1 adds support for LTE modules on the ESR6300 platform in slot 3. The related interface is Cellular 0/3/0.

Note The systems integrator or partner must have designed a slot in its finished product in order to support the LTE module.

ESR6300 supports only the following LTE modules:

- P-LTE-MNA (WP7610 modem)
- P-LTEA-LA (EM7430 modem)
- P-LTEA-EA (EM7455 modem)
- P-LTEAP18-GL (LM960 modem)

The cellular interface and module configuration works the same way as any other Polaris Cisco IOS-XE based platform and LTE modem.

Support for Additional 1-G SFPs

The following 1-G SFPs are supported in release 17.7.1:

- GLC-T-RGD
- CWDM-SFP-1470=
- CWDM-SFP-1610=
- CWDM-SFP-1530=
- DWDM-SFP-3033=
- DWDM-SFP-3112=
- GLC-BX-D-I=
- GLC-BX-U-I=
- GLC-TE

Major Enhancements Common to all IoT Routers

Factory-installed trust code

For new hardware and software orders, a trust code is now installed at the time of manufacturing.

Note You cannot use a factory-installed trust code to communicate with CSSM.

Support for trust code in additional topologies

A trust code is automatically obtained in topologies where the product instance initiates the sending of data to Cisco Smart License Utility (CSLU) and in topologies where the product instance is in an air-gapped network.

If a trust code is not available on the product instance, the product instance detects and automatically includes a request for one, as part of the RUM report. The ACK from CSSM includes the trust code.

Ability to save authorization code request and return in a file and simpler upload in the CSSM WebUI

If a product instance is in an air-gapped network, you can now save a SLAC request in a file on the product instance by configuring the **license smart authorization request {add|replace}** *feature_name* **{all|local}**, followed by the **license smart authorization request save** *[path]* commands.

The SLAC request file must be uploaded to the CSSM Web UI. You can then download the file containing the SLAC code and install it on the product instance. You can also upload a return request file in a similar manner. With this new method you do not have to gather and enter the required details on the CSSM Web UI to generate a SLAC. You also do not have to locate the product instance in the CSSM Web UI to return an authorization code.

In the CSSM Web UI, you must upload the SLAC request or return file in the same way as you upload a RUM report. In the required Smart Account, navigate to **Reports → Usage Data Files**.

RUM Report optimization and availability of statistics

RUM report generation and related processes have been optimized. This includes a reduction in the time it takes to process RUM reports, better memory and disk space utilization, and visibility into the RUM reports on the product instance (how many there are, the processing state each one is in, if there are errors in any of them, and so on).

The new **show license rum** privileged EXEC command displays information about Resource Utilization Measurement reports (RUM report) available on the product instance, including report IDs, the current processing state of a report, error information (if any), and to save the detailed or summarized view that is displayed.

The output of the **show license tech** and **show license all** commands were enhanced to display RUM report information.

Support to collect software version in a RUM report

If version privacy is disabled (**no license smart privacy version** global configuration command), the Cisco IOS-XE software version running on the product instance and the Smart Agent version is included in the RUM report.

Account information included in the ACK and show command outputs

A RUM report acknowledgement (ACK) includes the Smart Account and Virtual Account that was reported to, in CSSM. Once the ACK is installed on the product instance, you can display account information in the **show license summary**, **show license status**, **show license all** and **show license tech** commands. The account information that is displayed is always as per the latest available ACK on the product instance.

CSLU support for Linux

CSLU can now be deployed on a machine (laptop or desktop) running Linux.

For release notes and to download the latest version, click *Smart Licensing Utility* on the Software Download page.

Related Documentation

Cisco Catalyst IR1101 Rugged Series Router

IR1101 documentation landing page

Cisco Catalyst IR1800 Rugged Series Router

IR1800 documentation landing page

Cisco Catalyst IR8140 Heavy Duty Series Router

IR8100 documentation landing page

Cisco Catalyst IR8340 Rugged Series Router

IR8340 documentation landing page

Cisco ESR6300 Embedded Series Router

ESR6300 documentation landing page

Product Independent Documentation

Cisco Industrial Routers and Industrial Wireless Access Points Antenna Guide

Cisco IOS XE 17.x

Cisco SD-WAN

Cisco IoT Field Network Director

Cisco Industrial Network Director

Known Limitations

Smart Licensing Using Policy

Starting with Cisco IOS XE 17.6.1, with the introduction of Smart Licensing Using Policy, even if you configure a hostname for a product instance or device, only the Unique Device Identifier (UDI) is displayed. This change in the display can be observed in all licensing utilities and user interfaces where the hostname was displayed in earlier releases. It does not affect any licensing functionality. There is no workaround for this limitation.

The licensing utilities and user interfaces that are affected by this limitation include only the following: Cisco Smart Software Manager (CSSM), Cisco Smart License Utility (CSLU), and Smart Software Manager On-Prem (SSM On-Prem).

IOx on the ESR6300

Note IOx development is not supported on the ESR6300. While this is platform independent code, it is unsupported and untested on this device.

Standalone MAC Authentication Bypass (MAB) Limitation

Standalone MAC Authentication Bypass (MAB) is an authentication method that grants network access to specific MAC addresses regardless of 802.1X capability or credentials.

There are two defects associated with this functionality, CSCwa33567 and CSCwb23372.

Refer to the following table for details:

Table 3:

CDET	Details	Release Affected	Release Fixed
CSCwa33567	MAB/Dot1x may not work if the global type-6 encryption setting is enabled. If users still want to use MAB/Dot1x, they should disable the type-6 encryption and enable type-7 encryption.	17.4.X 17.5.X 17.6.1 17.6.2 17.7.1	17.3.5 Fixed in these future releases: 17.6.3 17.7.2 17.8.1
CSCwb23372	dACL and device-tracking features are not supported on the IR1101 and ESR6300 due to a hardware limitation. dACL is supported on the IR1800 series. Therefore, features such as MAB and Dot1x should not be used with the optional dACL/device-tracking enabled.	**Note** Occurs in all releases.	Hardware limitation, no software fix available.

Caveats

Caveats describe unexpected behavior in Cisco IOS XE releases. Caveats listed as open in a prior release are carried forward to the next release as either open or resolved.

The Cisco Bug Search Tool (BST) is a gateway to the Cisco bug-tracking system, which maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. The BST provides you with detailed defect information about your products and software.

Open Caveats in Cisco IOS XE 17.7.x

To view the details of a caveat, click on the identifier.

Identifier	Description	Platform
CSCvy19470	Additional reload is required when hardware detected on CM Side.	IR1101
CSCvz51077	SDWAN Config: Line configuration not reflecting properly.	IR1101 and IR1800
CSCwf22381	WAN SFP link goes down after reloading Peer.	IR1800
CSCvz33966	Additional reload required for LTE traffic connected on CM side with router upgrade from 17.4	IR1101
CSCwa33567	no radius packets sent from the router while using type 6 password encrytption.	IR1101 ESR6300
CSCvz74074	Hide Ignition CLI for non-IR1800 series platforms.	vManage/SDWAN
CSCwa04573	Memory leak at ida_ws_mqipc_msg_rcvd_handler and cns_stdio_save_send_rec.	CGNA
CSCvy83597	Cellular APN profiles are not preserved after the firmware upgrade on FN980 modem.	FN980 modem.
CSCvz19429	PTP Forward mode functionality is not working.	IR8340
CSCwa39271	Factory reset: continous reload is triggered with secure reset; 3-pass or 7-pass.	IR8340
CSCvw58347	Last reporter of IGMPV3 report is all "0" if receiver connected on SVI interface.	IR8340
CSCvz73215	Wrong message showing during the activation app with resource crunch.	IR8340
CSCvz79250	FCS errors with sync/pdel req/resp packets with PTP power profile when spanned on rx.	IR8340
CSCwa91618	DC Power Supply PID and VID is not visible.	IR8340
CSCwa39117	Factory reset - currently booted image gets wiped off from flash with non-secure reset.	IR8340
CSCvz58648	Observed jumps on its latency and peer delay turnaround time for DOT1AS profile.	IR8340

Resolved Caveats in Cisco IOS XE 17.7.1

There are no resolved caveats with this release.

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- To find warranty information for a specific product or product family, access Cisco Warranty Finder.

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